Pacific Northwest Generating Cooperative

Advanced Meter Infrastructure Implementation Project

Abstract

The Pacific Northwest Generating Cooperative (PNGC) is implementing a project that includes 10 distribution cooperatives. The cooperatives are deploying advanced metering infrastructure (AMI) assets including smart meters and two-way communication networks. AMI enables automated meter reading, which reduces meter operation costs, fuel usage for truck rolls, and air pollution. Several of the cooperatives are deploying direct load control devices. The direct load control programs offer customers a way to lower their electricity bill and provide the utility with a tool to manage peak load.

Smart Grid Features

Communications infrastructure includes the deployment of various communication technologies for both meter communications and backhaul networks. The 10 distribution cooperatives are deploying different communication systems due to the unique characteristics of each service territory. The meter communications are power line carrier technologies. The backhaul communication technologies include fiber optic, wireless radio frequency, microwave, and digital subscriber lines. Although the communications systems vary for each utility, they all enable two-way communication between the smart meters and the utility.

Advanced metering infrastructure includes the deployment of approximately 98,000 smart meters in the 10 participating distribution cooperatives. The PNGC cooperative members have already installed 23,000 smart meters. The smart meters and communication networks provide the distribution cooperatives with monitoring features that reduce operations costs, increase reliability, and allow for future offerings of time-based rate programs that can reduce customer electricity costs. PNGC members are integrating the meters with each distribution cooperatives' head-end system to provide different functions, which include remote connect/ disconnect, outage detection, power quality monitoring, and tamper detection.

Advanced electricity service options include a customer education campaign involving the deployment of in-home displays and Web

At-A-Glance

Recipient: Pacific Northwest Generating Cooperative

State: ID, MT, NV, OR, UT and WA

NERC Region: Western Electricity Coordinating Council

Total Budget: $39,153,486

Federal Share: $19,576,743

Key Partners: Central Electric Cooperative, Clearwater Power Company, Consumers Power Inc., Douglas Electric Cooperative, Fall River Rural Electric Cooperative, Lincoln Electric Cooperative, Inc., Northern Lights, Inc., Okanogan County Electric Cooperative, Raft River Rural Electric Cooperative and Salmon River Electric Cooperative

Project Type: Advanced Metering Infrastructure and Customer Systems

Equipment

- 97,666 Smart Meters
- AMI Communication Systems
  - Meter Communications Network
  - Backhaul Communications
- Meter Data Management System
- Customer Web Portal
- 8,650 In-Home Displays
- 11,780 Direct Load Control Devices

Time-based Rate Programs

- Time of Use

Key Targeted Benefits

- Reduced Meter Reading Costs
- Improved Electric Service Reliability and Power Quality
- Reduced Costs from Theft
- Reduced Truck Fleet Fuel Usage
- Reduced Greenhouse Gas and Criteria Pollutant Emissions

Pacific Northwest Generating Cooperative *(continued)*

portals to select groups of customers in six of the 10 distribution cooperatives. The deployments evaluate the functionality and benefits derived from information feedback. Four of the six distribution cooperatives are conducting information feedback pilots.

Direct load control devices are being deployed by six of the ten distribution cooperatives. These cooperatives are demonstrating interoperability between the AMI communications network and direct load control devices while determining the peak load reductions. The utilities are deploying the devices using a phased approach to understand customer acceptance, the amount of load that can be managed, and the operating costs associated with the devices. For the customer, the devices provide an opportunity to lower electricity bills through financial incentives for participation and for those also participating in time-of-use pricing programs to save money by shifting the amount of electricity used during peak demand periods.

Timeline

Key Milestones	Target Dates
AMI deployment begins	Q1 2011
Customer systems deployment begins	Q1 2011
AMI deployment end	Q2 2013
Customer systems deployment ends	Q2 2013

Contact Information

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